

[For the SCIENTIST.]

COLLECTING LAND SHELLS.

The apparatus required by the collector is exceedingly simple. He will need a box for larger specimens, several small bottles of alcohol for the smaller ones, and a pair of forceps with a weak spring. The latter can be easily made by simply doubling a strip of tin cut to the right size and shape. Thus equipped the collector is prepared for active work. He should search long and carefully in damp places, especially in swamps, but should not neglect localities that are comparatively dry. In damp woods, about springs, under rotten leaves, chips, and rubbish heaps, and around old garden walls he will find specimens in greater or less abundance. Damp boards laid around at night in gardens and yards will usually furnish more or less specimens in the morning. Sections that have a dry sandy soil, seem to be comparatively unfavorable to the existence of land shells. Sandy hills and plains and pine barrens will yield the collector but little encouragement, while moist woods and an alluvial soil will usually furnish an abundance of specimens. Sometimes hundreds of specimens of some minute species will be found congregated under a bit of bark or fallen tree in some moist situation, only waiting for the collector to transfer them to his alcohol bottle. A walk upon a damp morning through some rush-bog or swampy locality will usually reveal large numbers clinging to the rushes and grass-stalks or crawling slowly about.

As fast as the animals are taken they should be consigned to their proper place, the small ones to be dropped into the alcohol and the larger one into the box brought for the purpose.

The following rules of action, taken from Tryon's Conchology, are pertinent

and should be carefully studied and observed :—

1. Never rest satisfied until you have found the best examples of a species which your time and opportunities will allow.

2. Never collect imperfect or immature specimens, unless they exhibit some character making such a step desirable.

3. Having round a station which produces the finest specimens, study it carefully, that you may the more easily recognise such surroundings again.

4. If specimens are abundant collect plenty, and the work on that species will be done at once, save as you meet with desirable varieties.

5. Remember that if your specimens are good and clean it will always give you an advantage in exchanges as soon as correspondents begin to recognise this fact. Never pick up a poor specimen with the remark, "This will do for exchange" if a good one can possibly be had.

Having collected the specimens the next step is to prepare them for the cabinet. The smaller shells after remaining in the alcohol for a few days may be taken out, washed and dried and consigned to the proper receptacles. In the case of the larger ones after cleaning thoroughly the outside of the shell, using a soft brush if necessary, proceed to remove the animal. Place the specimen for a minute or less in hot water, then with a pin or bent wire attempt to remove the contents of the shell. If the animal does not come out readily give him another bath, which will usually be effectual. The vacated shells should then be washed again in clean water and the interior syringed out thoroughly. They should then be laid on a clean board or paper, mouth downward, to dry.

It now remains to discover the name of the species and arrange the speci-